

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A 1

Mile Post (ON)11: 209.285 mi

Bridge Key: F-16-OH

Inspection Date: 6/16/2011

Sufficiency Rating: 87.5 Not Eligible

Rgn/Sectn 2E/2M: 68
 Trans Region 2T: 02
 County Code 3: 031
 DENVER
 Place Code 4: 20000
 DENVER
 Rte.(On/Under)5A: 1
 Signing Prefix 5B: 1
 Level of Service 5C: 7
 Directional Suffix 5E: 0
 Feature Intersected 6:
 RAMP TO 8TH AVE R
 Facility Carried 7:
 6THAVERMP TOI25 NB
 Alias Str No.8A:
 Prll Str No. 8P
 Location 9: 328.05117409
 IN DENVER
 Max Clr 10: 99.99
 BaseHiway Net12: 0
 IrsinvRout 13A: 0000000000
 IrsSubRout No13B: 00
 Latitude 16: 39d 43' 39"
 Longitude 17: 105d 00' 51"
 Range18A: 68 W
 Township18B: 68
 Section18C: 4
 Detour Length 19: 2.0 mi
 Toll Facility 20: 3
 Custodian 21: 1
 Owner 22: 1
 Functional Class 26: 11
 Year Built 27: 1988
 Lanes on 28A: 3
 Lanes Under 28B: 2
 ADT 29: 21,650
 Year of ADT 30: 2005
 Design Load 31: 6
 Apr Rdwy Width 32: 68.0 ft
 Median 33: 0
 Skew 34: 0.00 °
 Structure Flared 35: 1
 Sfty Rail 36a/b/c/d: 1 1 1 1
 Rail ht36h: 36 "in"

Hist Signif 37: 5
 Posting status 41: A
 Service on/un 42A/B: 6 1
 Main Mat/Desgn 43A/B: 6 5
 Appr Mat/Desgn 44A/B: 0 0
 Main Spans Unit 45: 5
 Approach Spans 46: 0
 Horiz Clr 47: 45.7 ft
 Max Span 48: 151.3 ft
 Str Length 49: 628.1 ft
 Curb Width L/R 50A/B: 0.0 ft 0.0 ft
 Width Curb to Curb 51: 45.7 ft
 Width Out to Out 52: 48.7 ft
 Deck Area: 30,588. sq. ft
 Min Clr Ovr Brdg 53: 99.99
 Min Undrclr Ref 54A: H
 Min Undrclr 54B: 16.7 ft
 Min Lat Clmce Ref R 55A: H
 Min Lat Undrclr R 55B: 6.0 ft
 Min Lat Undrclr L 56: 5.00000015
 Deck 58: 7
 Super 59: 7
 Sub 60: 7
 Channel/Protection 61: N
 Culvert 62: N
 Oprtng Rtg Method 63: 5 No rating
 Operating Rating 64: 70.0
 Inv Rtn Method 65: 5
 Inventory Rating 66: 42.0
 Asph/Fill Thick 66T: 002 "in"
 Str. Evaluation 67: 8
 Deck Geometry 68: 6
 Undrclr Vert/Hor 69: 4
 Posting 70: 5
 Waterway Adequacy 7: N
 Approach Alignment 72: 8
 Type of Work 75A:
 Work Done By 75B:
 Length of Improvment 76: 0.0 ft
 Insp Team Indicator 90B: RED TEAM
 Inspector Name 90C: STADIGM
 Frequency 91: 24 months
 FC Frequency 92A: -1
 UW Frequency 92B: -1
 SI Frequency 92C: -1
 FC Inspection Date 93A:

UW Inspection Date 93B:
 SI Date 93C:
 Bridge Cost 94: \$ 0
 Roadway Cost 95: \$ 0
 Total Cost 96: \$ 0
 Year of Cost Estimate 97:
 Brdr Brdg Code/% 98A/B:
 Border Bridge Number 99:
 Defense Highway 100: 1
 Parallel Structure 101: N
 Direction of Traffic 102: 1
 Temporary Structure 103:
 Highway System 104: 1
 Fed Lands Hiway 105: 0
 Year Reconstructed 106: 0000
 Deck Type 107: 1
 Wearing Surface 108A: 6
 Membrane 108B: 2
 Deck Protection 108C: 1
 Truck ADT 109: 6 %
 Trk Net 110: 1
 Pier Protection 111: #
 NBIS Length 112: Y
 Scour Critical 113: N
 Scour Watch 113M: 0
 Future ADT 114: 27,062
 Year of Future ADT 115: 2025
 CDOT Str Type 120A: CBGC
 CDOT Constr Type 120B: 4.
 Inspection Indic 122A:
 Inspection Trip 122AA:
 Scheduling Status 122B:
 Maintenance Patrol 123: 7
 Expansion Dev/Type124:
 Brdg Rail Type/Mod 125A/B:
 Posting Trucks 129A/B/C: 0 0 0
 Str Rating Date 130: 9/18/1998
 Special Equip 133: -1
 Vert Clr N/E 134A/B/C: X 99.99 0.00
 Vert Clr S/W 135A/B/C: X 99.99 0.00
 Vertical Clr Date: 10/8/1993
 Weight Limit Color: 139: 0
 Str Billing Type: U
 Userkey 1 - System: ONSYS
 Userkey 7-Update Indic:

Inspector Name: STADIGM

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Element Inspection Report

Elm/En	Description	Units	Total Qty	% in 1	CS 1	% in 2	CS 2	% in 3	CS 3	% in 4	CS 4	% in 5	CS 5
26/4	Conc Deck/Coatd Bars	(SF)	30,588	0 %	0	100 %	30,588	0 %	0	0 %	0	0 %	0
104/4	P/S Conc Box Girder	(LF)	3,768	100 %	3,768	0 %	0	0 %	0	0 %	0	0 %	0
210/4	R/Conc Pier Wall	(LF)	218	100 %	218	0 %	0	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	49	100 %	49	0 %	0	0 %	0	0 %	0	0 %	0
234/4	R/Conc Cap	(LF)	61	95 %	58	5 %	3	0 %	0	0 %	0	0 %	0
307/4	Modular Expansion Jt	(LF)	106	97 %	103	3 %	3	0 %	0	0 %	0	0 %	0
314/4	Pot Bearing	(EA)	11	100 %	11	0 %	0	0 %	0	0 %	0	0 %	0
321/4	R/Conc Approach Slab	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
325/1	Slope Prot/Berms	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
326/4	Bridge Wingwalls	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
331/4	Conc Bridge Railing	(LF)	628	96 %	603	4 %	25	0 %	0	0 %	0	0 %	0
333/4	Other Bridge Railing	(LF)	628	96 %	603	4 %	25	0 %	0	0 %	0	0 %	0
340/4	Superstr Cnc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
341/4	Substr Conc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
26/4	Conc Deck/Coatd Bars	2 Inches of asphalt. A newer overlay, looks OK.
104/4	P/S Conc Box Girder	Light vertical cracks in diaphragms at the following locations; Pier 1 Cells A, C, D, E, and F; Pier 3 Cells 2C, 2D, 2E, 3B, 3C, and 3E; Pier 4 Cells 3B, 3C, 3D, 4D, and 4E; Pier 5 Cell 4E. Light horizontal cracks in diaphragms at these locations; Pier 1 Cells A, C, D, E, and F; Pier 2 Cell 1D. A few vertical cracks in webs at these locations; near Pier 2 on Web 1D in Cell 1C, and near Pier 2 on Web 1C in Cell 1B. Small rock pockets in Cell 1D on Web D, about 8 feet from Pier 1; and in Cell 1F, Web F, about 15 feet Forward of the web access hole. Exterior: One 1.5 foot long vertical/diagonal crack near the top of the Left web of Span 1, at Pier 2; and a 1 foot long hairline vertical crack on the Right web at Pier 2.
210/4	R/Conc Pier Wall	Includes the wall at Pier 1. A few hairline to light vertical cracks, near the bottoms of all. A minor chip at the Right side of Pier 1.
215/4	R/Conc Abutment	Abutment 6 only. A moderate delam. crack with heavy efflor. at the top, on the Right side; and a diagonal delam. crack at the top, on the Left side.
234/4	R/Conc Cap	Only at Pier 1. A few light vertical cracks approximately 1/16 inch wide, i.e. below Bearings 1D, and 1E.

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307/4	Modular Expansion Jt	Cracks in end dams previously reported at A6, covered with asphalt during the 2011 inspection. Sand pushed down in the glands at both. The P1 joint has 3 glands, and is open 9.0 inches for the Left portion, and 11.0 inches for the Right portion. The Right portion of the P1 joint has 2 glands on the Right side that are starting to pull out. The A6 joint has 2 glands and open about 4.75 inches i-i of steel armor. Neither one appears to have leaked.
314/4	Pot Bearing	Seven bearings at Pier 1, and four at A6. Bearings look good, minor cracks in grout pads. Sole plates are in the contracted position, but pistons still have 100% bearing. (See PHOTO of Bearing G at Pier 1; similar at all, at Pier 1).
321/4	R/Conc Approach Slab	The slab at A6 is covered with asphalt, no visible settlement.
325/1	Slope Prot/Berms	A dirt slope at A6. One erosion trough (up to 1.5 feet deep), from overflow of the inlet grate at the Right side of A6.
326/4	Bridge Wingwalls	U-type abutment wing walls, at A6 only. Moderate vertical and diagonal cracks.
331/4	Conc Bridge Railing	Type R concrete Jersey barrier on the Left. Some light vertical cracks. There is a spall in Span 2. Electrical boxes in blockouts are rusting out. Some spots of light scale.
333/4	Other Bridge Railing	A 3 foot high debris fence mounted on top of Type R concrete Jersey barrier, at the Right side. Some spots of light scale. Electrical boxes in blockouts are rusting out.
340/4	Superstr Cnc Coating	A few areas of painted over graffiti.
341/4	Substr Conc Coating	Some painted over graffiti at bottoms of piers.
359/4	Soffit Smart Flag	Light transverse cracks with efflor. in the overhangs, primarily above piers. Timber forms remain in place on the bottom of the top slab, in all cells; (see PHOTOS). The majority of forms were removed from Cells 1E and 1F, forms have fallen down Cell 1D.

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
352.01	Cln & Wash	7/10/2001	-1	2014	250

Clean out deck drains, they are totally clogged. Scupper at Abutment 6 has compacted sand up to the roadway surface.

**398.00	Misc Br Wk	6/22/2009	-1	2014	5700
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Replace the heavy steel access doors with lighter doors.

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MMS Activity	Description	Recommended	Status	Target Year	Est Cost
**354.04	Suprstr	6/22/2009	-1	2014	50000

Remove timber concrete forms from all cells of girders.

Bridge Notes

Access: Span 1 barely reachable with van bucket, Span 2 is similar. Span 4 access is above Right shoulder stripe of exit ramp to 8th Ave. Span 5 access is on the Left side of exit ramp to 8th ave, this is the best place to start, it can be accessed with bucket van or 12 foot ladder. Span 3 is above dirt access road and less than 20 feet high, similar to Spans 1 and 2. Access Doors are very heavy and difficult to open, due to rust. Entered Span 1 cells only 2009 inspection. Not entered in 2011.

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Inspection Notes

TIME: 11:10	TEMP: 80	WEATHER: Clear
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Scope:

☒ NBI: ☒ Element: ☐ Underwater: ☐ Fracture Critical: ☐ Other: Type: Regular NBI

Inspector: STADIGM

Inspection Team:

Inspection Date: 06/16/2011

Inspector

Inspector